REMARKS

Claims 1-44 are pending. Claims 1, 4, 8, 11, 14, 16, 19, 21, 23, 26, 30, 33, 36, 38, 41, and 43 have been amended.

Information to be Provided

In response to the Office's requirement for information, the Applicants have enclosed a copy of document XP-002278320 with the present Amendment.

Claim Objections

On Page 2 of the outstanding Office action, claims 8, 14, 19, 30, 36, and 41 are objected to for redundantly reciting the limitation "said rankings."

In response to the above-stated claim objection, claims 8, 14, 19, 30, 36, and 41 have been amended to more clearly define that "said rankings" is first recited as a limitation for the basis of a geometric progression and "said rankings" is secondly recited as a separate stand-alone limitation. Thus, the limitation "said rankings" is not redundantly recited, but rather, it is recited as a part of one limitation and separately recited as another distinct limitation.

Specification Objections

On page 2 of the outstanding Office action, claims 8, 14, 19, 30, 36, and 41 are objected to for containing the limitation "geometric progression" which the Office alleges is not addressed in the specification.

In response to the above-stated specification objection, the Applicants respectfully point the Examiner to Paragraph 26 of the application, which recites "[t]he assigning may be performed according to either a geometric progression based on the rankings or the rankings themselves," and further to Paragraph 63 and Figure 3 of the application as support for this limitation.

Claim Rejections under 35 U.S.C. § 101

On page 3 of the outstanding Office action, claims 1-44 are rejected under

35 U.S.C. § 101 as being drawn to non-statutory subject matter because the claims do not

produce a useful, tangible, and concrete final result. The Applicants respectfully traverse this

rejection.

In response to the above-stated rejection, the Applicants have amended claims 1 and 4 to

recite "a method for solving packing and component layout problems." Claims 11, 16, and 21

have been amended to recite a method "for determining sensitivity for use in solving packing and

component layout problems." The Applicants respectfully point out that this amendment further

clarifies that the claimed processes involve the manipulation of data representing physical

objects, and thus, claims 1, 4, 11, 16, and 21 are statutory under 35 U.S.C. § 101. The

Applicants further point out that Paragraphs 82-87 and Figures 7A-7C show real-world examples

of the claimed processes being used for packing various objects in a large sphere, packing

luggage pieces into the trunk of a car, and packing gears into a cubic container. (Please see

MPEP 2106 IV. B. 2.(b).)

In response to the above-stated rejection, the Applicants have amended claims 23, 26, 33,

38, and 43 to recite "a computer readable medium." The Applicants respectfully point out that a

claimed computer-readable medium encoded with a data structure defines structural and

functional interrelationships between the data structure and the computer software and hardware

components which permit the data structure's functionality to be realized, and thus claims 23, 26,

33, 38, and 43 are statutory under 35 U.S.C. § 101. The Applicants further point out that a

computer program is a set of instructions capable of being executed by a computer, and the

computer program itself is not a process and should not be treated as such.

Claim Rejections under 35 U.S.C. § 102(e)

On page 4 of the outstanding Office action, claims 1-44 are rejected under 35 U.S.C.

§ 102(e) as being anticipated by Lundahl et al. (US 6,636,862). The Applicants respectfully

traverse this rejection.

The Office cites Lundahl, column 38, lines 19-54, and column 42, lines 20-32, as allegedly anticipating claims 1 and 23. The Applicants respectfully disagree with the Office's allegation. The Applicants first point out that Lundahl discloses a method and system for the dynamic analysis of data related to consumer choice modeling or quality control programs. (See Lundahl, column 1, lines 24-26, and column 8, lines 43-67). The Applicants next point out that the use of X, Y, Z matrixes for storing consumer choice or quality control data is merely a naming convention for the matrixes, and the matrixes have no correlation with the x, y, z axes. The Applicants also note that column 38, lines 19-54 (cited by the Examiner) discloses a general optimization problem where the goal is to find the minimum of a given objective function with exemplary functions between the X, Y, Z matrixes provided. There is no mention of any kind of solution procedure let alone performing a pattern-based search, characterized by driving the search with a metric other than step size, such as that required by claims 1 and 23. Rather, Lundahl discloses using a third party (MathWorks) routine. The Applicants finally point out that column 42, lines 20-32, discloses a user interface on a networked computer. There is no mention of any kind of procedure let alone a procedure for performing a pattern-based search, characterized by driving the search with a metric other than step size, such as that required by claims 1 and 23. Accordingly, it is believed that independent claims 1 and 23, as well as dependent claims 2-3 and 24-25, are in condition for allowance.

The Office cites Lundahl, column 38, lines 19-54, as allegedly anticipating claims 4 and 26. This section of Lundahl has been discussed above, and the arguments set forth above are equally applicable to claims 4 and 26. Accordingly, it is believed that independent claims 4 and 26, as well as dependent claims 5-10 and 27-32, are in condition for allowance.

The Office cites Lundahl, column 32, lines 5-22, as allegedly anticipating claims 11, 16, 33, and 38. The Applicants respectfully disagree with the Office's allegation. The Applicants respectfully point out that the cited section of Lundahl discloses a process that determines what element in dataset X can best predict the element in dataset Y. The process in Lundahl is used for modeling and/or function relationships within or between data sets (See Lundahl, column 8, lines 19-33) and not ranking each of a plurality of moves on a set of components based on the effect each move has on an objective function, such as that required by claims 11, 16, 33, and 38.

Accordingly, it is believed that independent claims 11, 16, 33, and 38, as well as dependent claims 12-15, 17-20, 34-37, and 39-42, are in condition for allowance.

The Office cites Lundahl, column 38, lines 19-32, as allegedly anticipating claims 21 and 43. The Applicants respectfully disagree with the Office's allegation. The Applicants respectfully point out that the cited section of Lundahl discloses a general optimization problem where the goal is to find the minimum of a given objection function with the only solution procedure being the SIMPS optimization routine. Neither the cited passage of Lundahl nor the SIMPS optimization routine discloses performing a preprocessing method comprising, deriving a function that relates moves to changes in an objective function, such as that required by claims 21 and 43. Accordingly, it is believed that independent claims 21 and 43, as well as dependent claims 22 and 44, are in condition for allowance.

Applicants have made a diligent effort to place the instant application in condition for allowance. Accordingly, a Notice of Allowance for pending claims 1-44 is respectfully requested. If the Examiner is of the opinion that the instant application is in condition for disposition other than through allowance, the Examiner is respectfully requested to contact Applicants' attorney at the telephone number listed below.

Respectfully submitted,

Edward L. Pencoske
Registration. No. 29,688
Jones Day
One Mellon Center
500 Grant Street, Suite 3100
Pittsburgh, PA, USA, 15219
Direct Dial: (412) 394-9531
Facsimile: (412) 394-7959
Attorneys for Applicants

Date: 21 September 2006